

EC4440 (3-1) STATISTICAL DIGITAL SIGNAL PROCESSING

Summer Quarter AY2003

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Text: Therrien, *Discrete Random Signals and Statistical Signal Processing*, Prentice Hall, 1992.

Rough outline for the course:

<u>Week</u>	<u>Sections of the Text</u>	<u>Topics</u>
1	2.2 – 2.7	Linear algebra topics
2	7.3	Orthogonality principle, Wiener filter (review)
3	11.1 – 11.3	LMS Adaptive filters
4	8.1 – 8.3	Linear prediction and AR models.
MIDTERM EXAM (20%)		
5	9.1 – 9.3	Linear models, least squares principles.
6	9.4	AR modeling.
7	9.5, 9.7	ARMA modeling.
8 - 10	10.2 – 10.4	Modern spectrum estimation.
11		Various.
FINAL EXAM (40%)		

NOTES:

1. Written problems will be assigned on a weekly basis but not graded. Solutions will be posted the following week.
2. Laboratory assignments require MATLAB and are worth 40% of the final grade.